



Navy Environmental Quality Fact Sheet



Are you a high volume user of incandescent bulbs?

Would you like to improve this process in the following areas?

- **Meet environmental compliance regulations.** Comply with Executive Order requirements to increase energy efficiency.
- **Improve workers' safety and health.** No change to current operations.
- **Increase productivity.** Reduce labor associated with bulb and lamp change-outs.
- **Save money.** Reduce energy costs and labor cost associated with bulb and lamp change-outs.



Compact Fluorescent Lamps

The use of compact and sub-compact fluorescent lamps (CFLs) to replace incandescent bulbs will save energy and labor time without significant loss of performance. CFLs are slightly larger than incandescent bulbs and can fit in most existing incandescent fixtures as direct replacements. CFLs come in a range of colors including the color of incandescent bulbs. Some types of CFLs can also be used with a dimmer switch. CFLs that use an electronic ballast (as opposed to a magnetic ballast) light almost immediately, eliminate flickering, and do not have the low buzz that is typical of standard fluorescent bulbs. The primary advantage of CFLs, as with all fluorescent bulbs, is that they operate at much lower temperatures, are highly energy efficient, and last a long time. A CFL will last up to 10 times longer than an incandescent bulb, use 1/4 the energy, produce 90% less heat and more light! The CFL can be disposed of in the same manner as incandescent bulbs, but it is recommended that they be recycled because of the small amount of mercury contained in the CFL. Although the initial cost of a CFL is much greater than an incandescent bulb, the energy savings will more than offset the initial costs. In typical applications, the energy savings will pay for the initial cost of the CFL in one year. The Department of Energy has obtained special pricing for CFLs for Federal agencies. Details can be found at <http://www.pnl.gov/cfl/welcome.stm>.

How can you achieve these improvements?

Use compact fluorescent lamps to replace incandescent bulbs.

How does this equipment work?

The CFL combines the advantages of standard fluorescent bulbs, without many of the disadvantages of fluorescent bulbs, and the ability to use incandescent bulb fixtures.

How will this equipment save you money?

Reduce costs associated with labor for bulb/lamp replacements and drastic reductions in annual energy consumption.



How can this technology eliminate or reduce pollution?

This P2 technology replaces incandescent light bulbs with a non-hazardous product. Implementation will result in the following pollution reduction:

- Reduce energy consumption for lighting.

Which processes can benefit most from this technology?

Compact fluorescent lamps can be used in all Navy facilities or operations that use large amounts of incandescent light bulbs.

How can this technology reduce regulatory compliance concerns?

Use of the non-hazardous compact fluorescent bulb reduces energy requirements for lighting. Implementation will result in the following regulatory compliance benefit:

- May help facilities comply with Executive Order 13123 (*Greening the Government through Efficient Energy Management*) requiring agencies, by 2010, to reduce energy consumption in Federal buildings by 35% (based on 1985 usage levels).



Achieving Environmental Compliance Through Pollution Prevention

Every day the Navy faces the challenge of operating and maintaining the fleet while complying with environmental regulations. This burden can be reduced by using pollution prevention technologies and methods to reduce compliance requirements. This fact sheet is one in a series designed to encourage activities to use pollution prevention technologies and methods. The overall goal of this series is to promote sustained environmental compliance at the lowest life-cycle cost.

For additional information, contact:

More information on compact fluorescent lights can be found at the EPA Energy Star web site, <http://www.energystar.gov/products/cflbulbs.html>

Program POC:

(805) 982-5318, DSN 551-5318

E-mail: Fact.Sheet.ProgramPOC@nfesc.navy.mil

Technical POC:

(805) 982-1276, DSN 551-1276

